



Which advances in thermal insulation are shaping the future of outerwear design?

PARTNER CONTENT

By Partner

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Credits: *Thermore*

Imagine stepping into a wintry landscape where your outerwear not only keeps you warm but also moves with you and aligns with your sustainability values. This is no longer a far-off vision but a reality being shaped by advances in insulation technology. In the evolving field of outerwear design, thermal insulation has become a key performance driver, influencing warmth, durability, sustainability, and overall consumer appeal.

The science behind warmth

Thermal insulation in outerwear acts as a critical barrier against the cold, trapping body heat and preventing it from escaping. The effectiveness of this process depends on the structure of the insulation, which typically consists of synthetic fibres designed to trap air. Air, being a poor conductor of heat, acts as an effective insulator, similar to the principle of double-glazed windows used to improve thermal efficiency in homes.



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The challenge for outerwear brands is to offer versatile insulation solutions that are both fashionable and functional. High-performance insulation must provide warmth without bulk, withstand repeated wear and laundering, and meet the growing consumer demand for sustainable products.

Future-proof fabrics

The outerwear industry has seen significant advances in thermal insulation technology, driven by continued investment in research and development. A key area of innovation has been in fibre stability and durability, with modern technologies focusing on preventing fibre migration, which can compromise insulation effectiveness over time. Proprietary finishing processes have been developed to stabilise polyester fibres, ensuring consistent performance through regular use and machine washing.



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Sustainability has become a critical consideration in insulation, with brands expected to offer products that perform well while minimising environmental impact. This includes using recycled materials, reducing waste, and implementing environmentally friendly manufacturing processes. Additionally, advanced stretch and adaptability in new insulation materials offer improved movement, making them suitable for a wider range of activities without restricting motion. Brands that can combine cutting-edge technology with sustainable practices are likely to see increased loyalty and market share.

The pioneering expertise of Thermore

As a leader in thermal insulation, Thermore exemplifies the industry's commitment to innovation and sustainability. With nearly 50 years of experience, the Milan-based company has consistently set benchmarks in thermal insulation technology, demonstrating a dedication to research and development that results in groundbreaking products. One of Thermore's notable advances is its proprietary finishing process that stabilises polyester fibres, preventing fibre migration and ensuring durability. Even after extensive wear and washing, its insulation products retain their high performance.



Credits: Thermore

Thermore's commitment to sustainability is evident in its use of recycled polyester fibres made from PET bottles, which reduces waste and is in line with its philosophy of ethical product development. A pioneer in sustainable insulation, the company introduced environmentally friendly options as early as the 1980s. Their latest innovation, Thermore® Freedom, is a testament to their forward-thinking approach. Made from 50 percent post-consumer recycled polyester, this dynamic stretch insulation features micro-gaps that adapt to the wearer's movements for unparalleled comfort and warmth. It is ideal for a variety of active pursuits, from alpine sports to urban commuting.

Thermore at Circular Textile Days

Thermore's dedication to sustainability extends beyond their products. They actively participate in industry events such as the upcoming [Circular Textile Days](#), a business event focused on sustainable textile solutions taking place from 18 to 19 September in the Dutch city of 's-Hertogenbosch. The event brings together stakeholders from across the textile chain to discuss and showcase innovative circular solutions.

The future of outerwear design is being shaped by advances in thermal insulation technology. Innovations that enhance performance, durability, and sustainability are setting new standards in the industry. Companies like Thermore are at the forefront, continually pushing the boundaries to create

products that meet the evolving needs of both brands and consumers. By leveraging these innovative insulation technologies, retailers can differentiate product lines, cater to a wider range of activities and environments, and ultimately drive sales through high-quality, versatile outerwear options.

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